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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,758	08/04/2003	Hiroyuki Suzuki	2500.68250	5333

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EXAMINER	
MERCEDES, DISMERY E	
ART UNIT	**PAPER NUMBER**
2651	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,758	SUZUKI ET AL.	
	Examiner	Art Unit	
	Dismery E Mercedes	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 11-21* is/are rejected.

7)☒ Claim(s) *8-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 6-7 are objected to because of the following informalities: it is not clear as to what claim is claim 6 is dependent. Appropriate correction is required. Claim 6 will be presumed to be dependent on claim 5 for purposes of applying art.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda et al., hereinafter Ikeda, (US 2001/0048568 A1).

Ikeda discloses a magnetic transfer apparatus comprising: a support mechanism designed to support a magnetic disk (page 20, ¶0303, lines 1-4); and a magnetizing mechanism designed to get opposed to the magnetic disk held by the support mechanism, said magnetizing mechanism applying a magnetic field of variable intensity in response to a change of position in a radial direction of the magnetic disk (page 15, ¶0221, lines 1-3; ¶0225, lines 1-3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2-4 and 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonyhard (US 5,991,104), in view of Ikeda et al. hereinafter Ikeda, (US 2001/0048568 A1).

As to Claim 2, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to disclose the circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; a magnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression; and a position sensor related to the magnet so as to detect a position of the magnet in the radial direction of the magnetic disk.

However, Ikeda et al. discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224); magnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression (as depicted in FIG.29, page 15, ¶0224; page 21, ¶0307, line 2); and position sensor related to the magnet so as to detect a position of the magnet in the radial direction of the magnetic disk (page 28, ¶0423, lines 10-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced

capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

As to Claim 3, in the obvious combination, Ikeda discloses a magnetic intensity adjusting mechanism related to the magnet, said magnetic intensity adjusting mechanism designed to drive the magnet for rotation around a rotation axis intersecting a surface of the magnetic disk in accordance with the position of the magnet (page 20, ¶0303, lines 1-4; FIG.3, "2").

As to Claim 4, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk (page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft said controlling mechanism designed to change a rotation speed of the driving shaft in accordance with the position of the magnet (page 5, ¶0075, lines 9-10).

As to Claim 11, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to particularly disclose the circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; a magnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression; and a position sensor related to the magnet so as to detect a position of the magnet in the radial direction of the magnetic disk.

However, Ikeda discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224); magnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression (as depicted in FIG.29, page 15, ¶0224; page 21, ¶0307, line 2); a magnetic intensity adjusting mechanism related to the magnet, said magnetic intensity adjusting mechanism designed to drive the magnet for rotation around a rotation axis intersecting a surface of the magnetic disk in accordance with the displacement of the magnet in the radial direction (page 20, ¶0303, lines 1-4; FIG.3, "2").

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

As to Claim 12, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk (page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft, said controlling mechanism designed to change a rotation speed of the driving shaft in accordance with the displacement of the magnet in the radial direction (page 5, ¶0075, lines 9-10; page 15, ¶0225,lines 1-3).

As to Claim 13, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic

body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to particularly disclose a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; and a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk.

However, Ikeda discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224). Ikeda further discloses a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk (page 15, ¶0220, lines 5-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

As to Claim 14, in the obvious combination, Ikeda further discloses a magnetic intensity adjusting mechanism designed to drive the magnetic poles for rotation around a rotation axis intersecting a surface of the magnetic disk. (page 20, ¶0303, lines 1-4; FIG.3, "2").

As to Claim 15, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk (page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft, said controlling mechanism designed to

change a rotation speed of the driving shaft in accordance with an angle of the rotation of the magnetic poles (page 5, ¶0075, lines 9-10, page 15, ¶0220, lines 5-12).

As to Claim 16, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to particularly disclose a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; and a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk.

Ikeda discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224); and a pair of magnetic poles designed to face the master magnetic body, said magnetic poles being spaced from each other at variable distances in accordance with positions in the radial direction of the magnetic disk (page 15, ¶0230, lines 7-15). Ikeda further discloses a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk (page 15, ¶0220, lines 5-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

As to Claim 17, in the obvious combination, Ikeda further discloses a magnetic intensity adjusting mechanism designed to drive the magnetic poles for rotation around a rotation axis intersecting a surface of the magnetic disk (page 20, ¶0303, lines 1-4; FIG.3, "2").

As to Claim 18, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk (page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft, said controlling mechanism designed to change a rotation speed of the driving shaft in accordance with an angle of the rotation of the magnetic poles (page 5, ¶0075, lines 9-10; page 15, ¶0220, lines 5-12).

As to Claim 19, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to particularly disclose a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; a pair of magnetic poles designed to face the master magnetic body said magnetic poles generating a flow of magnetic flux in at least first and second directions within a plane including a surface of the magnetic disk, and a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk.

However, Ikeda discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224); a pair of magnetic poles designed to face the master magnetic body said magnetic poles generating a flow of magnetic flux in at least first and second directions

within a plane including a surface of the magnetic disk.(page 15, ¶0230; and as depicted in FIG.3); a pair of magnetic poles spaced from the master magnetic body at variable distances in accordance with positions in the radial direction of the magnetic disk (page 15, ¶0220, lines 5-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

As to Claim 21, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk (page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft said controlling mechanism designed to change a rotation speed of the driving shaft in accordance with a displacement of the magnetic poles in the radial direction of the magnetic disk (page 5, ¶0075, lines 9-10; page 15, ¶0225,lines 1-3).

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonyhard in view of Ikeda et al., further in view of Nakamura et al. (US 2003/0043486).

As to Claim 5, Bonyhard discloses a master magnetic body contacting against the magnetic disk a contact surface bordered along a contour of a servo pattern, said master magnetic body defining in the contact surface a depression corresponding to a shape of the servo pattern (col.3, lines 14-20 & col.7, lines 45-48).

Bonyhard fails to particularly disclose a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk; an electromagnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression.

However, Ikeda discloses a circumferential extent of the depression being set larger at an outer position of the magnetic disk than an inner position of the magnetic disk (as depicted in FIG.29, page 15, ¶0224); an electromagnet designed to face the master magnetic body, said magnet applying a magnetic field to the master magnetic body so as to form a magnetic field for writing within the depression (page 15, ¶0228, lines 1-8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to implement Ikeda's magnetic recording disclosure in Bonyhard's magnetic media, the motivation being because it would provide Bonyhard's magnetic media with the enhanced capability of applying a uniform magnetic field intensity to the disk and thus forming a uniform a magnetic pattern on the surface of the disk (page 15, ¶0221-0225 of Ikeda et al.).

The combination of Bonyhard and Ikeda does not disclose a magnetic intensity adjusting mechanism related to the electromagnet, said magnetic intensity adjusting mechanism designed to change a magnitude of the electric power in accordance with a displacement of the electromagnet in the radial direction of the magnetic disk.

However, Nakamura et al. discloses such (page 6, ¶0099-0100; ¶0102, lines 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention, to use a magnetic adjusting mechanism as taught by Nakamura on the apparatus taught by Bonyhard and Ikeda, the motivation being because it would provide the apparatus

taught by Bonyhard and Ikeda with the enhanced capability of moving the magnet properly in the radial direction and so place the magnet opposite the magnetically different part (page 6, ¶0102, lines 9-11 of Nakamura).

As to Claim 6, in the obvious combination, Ikeda et al. further discloses magnetic intensity adjusting mechanism is designed to drive the electromagnet for rotation around a rotation axis intersecting a surface of the magnetic disk in accordance with the displacement of the electromagnet on (page 20, ¶0303, lines 1-4; FIG.3, "2").

As to Claim 7, in the obvious combination, Ikeda further discloses a driving shaft receiving the magnetic disk ((page 20, ¶0303, lines 1-4; page 26, ¶0397, lines 1-3); and a controlling mechanism related to the driving shaft, said controlling mechanism designed to change a rotation speed of the driving shaft in accordance with the displacement of the electromagnet (page 5, ¶0075, lines 9-10).

Allowable Subject Matter

7. Claims 8, 9, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 8, is allowable over prior art of record since the cited references taken individually or in combination do not particularly **disclose** ***a magnetic intensity adjusting mechanism designed to generate a displacement of the magnet in a vertical direction perpendicular to a surface of the magnetic disk in response to a displacement of the magnet in the radial direction of the magnetic disk.*** Claims 9 and 10 are allowed for their dependency on claim 8.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Komatsu et al. (US 6,643,079 B1), discloses a method and apparatus for magnetic transfer
- Takano (US 6,813,105 B2), discloses a magnetic transfer apparatus for transferring data to perpendicular magnetic recording medium and method of magnetic transfer.
- Takano (US 2002/0075582), discloses a magnetic transfer apparatus for transferring data to perpendicular magnetic recording medium and method of magnetic transfer.
- Jansen et al (US 5,022,017), discloses a magneto optic data recording system with variable field strength, actuator therefor and method of providing.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E Mercedes whose telephone number is 703-306-4082. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dismery E Mercedes
Examiner
Art Unit 2651

W. R. YOUNG
PRIMARY EXAMINER

DM